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THE VETERINARY JOURNAL

A MONTHLY REVIEW OF VETERINARY SCIENCE

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The Veterinary Journal.

JULY, 1936.

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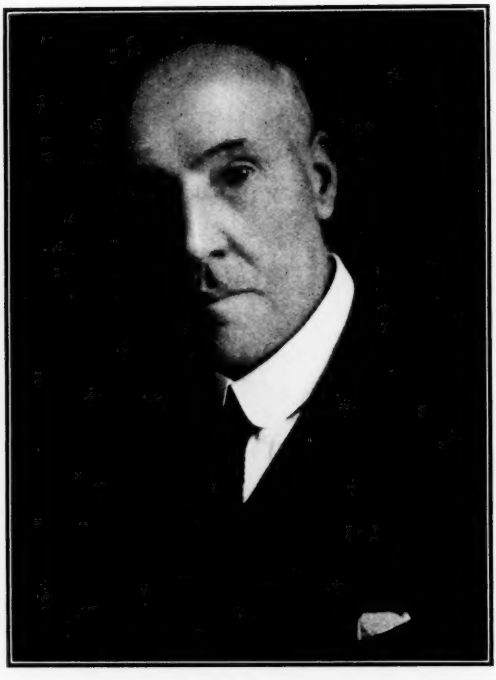

The late Professor JAMES MACQUEEN, F.R.C.V.S.

Formerly Professor of Surgery and Dean of the Royal Veterinary College, London.

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Veterinary Adviser to various Overseas Governments; late Chief Veterinary Officer to the Corporation of the City of London

JULY, 1936

Obituary

THE LATE PROFESSOR JAMES MACQUEEN, F.R.C.V.S.

THE "passing" of so distinguished a landmark in veterinary history as Professor James MacQueen will be noted with regret in the whole veterinary world, for his name was indeed a household word in the profession; and the number of students who had passed through his hands was "legion." His knowledge was varied, for there was scarcely a branch of veterinary science in which at some time or other he had not played the rôle of Teacher or Examiner. Botany, materia medica, histology, hygiene and the pathology of the animals of the farm were each taught by him in turn, but those in which he took most pride were the more clinical aspects of anatomy and surgery; whilst on the subject of lameness his diagnosis was almost uncanny in its accuracy.

In legal disputes his services as an expert were much in request, and his decisive, and sometimes humorous, methods of expressing his opinion in the witness box often turned the scale. Always at work, his evenings were devoted to literature, and the profession is indebted to his pen for revisions or re-writings

of Neuman's " Parasites of the Domesticated Animals " ; Fleming's " Operative Surgery " and " Horse Shoeing " ; and Finlay Dunn's " Veterinary Medicines."

Graduating from the Glasgow College in 1877, Professor MacQueen took his Fellowship in 1886, subsequently acting as an Examiner for this Diploma for over thirty years. His popularity and the confidence of his brother members were manifested by his election, amongst other things, to the R.C.V.S. Council, the Presidentships of the Central Veterinary Society (whose members awarded him the Victory Medal in 1927), and of the National Veterinary Association, to which he had formerly been secretary. In 1915 the R.C.V.S. Council unanimously selected him to be the recipient of the much coveted John Henry Steel medal ; and when he retired from the Professorship of Surgery in the Royal Veterinary College, at the age of seventy-six, he also held the position of Dean. Right up to within a few months of his death (he was then eighty-three) it was his delight to come to his *Alma Mater* and take the grind classes in Class D Surgery —his keen wit and the fear of the laugh caused by his occasional biting comments proving the necessary stimulus which kept many a student up to the mark, and incited him in his efforts for the final examination.

An earnest worker throughout his life, his sound judgment will be missed by many—student and practitioner—to whom he was ever ready to give advice when asked. Mrs. MacQueen's death, in November, 1935, was deeply felt and the sympathy of the profession will go out to his son and daughter.

Editorial

AN INTERESTING EXPERIMENT.

UNDER the above heading our widely-read contemporary, the *Journal of the American Veterinary Medical Association*, has a very interesting Editorial article which is worth pondering over, as it might perhaps be introduced with advantage in some of the poorer districts of Great Britain and the Irish Free State. It is a scheme to help the moderately well-off and poorer owner of farm animals to get proper veterinary advice at reasonable fees ; and is being tried out in Livingston County, Michigan, U.S.A., under the guidance of the Co-operative and Community Service Section of the Re-settlement Administration and the Extension Department of Michigan State College.

The idea is to enable the small farmers to obtain veterinary service at a minimum cost, and the plan is modelled after that of the Missco Community Medical Association. It is really a modification of the form of contract practice which

used to be so frequently carried out when business firms kept large studs of animals. The Livingston County plan provides that the veterinarian shall render certain services for a fixed fee. These shall include one regular visit per month to the farm of each member of the Association, and when there shall give advice and do whatever operations are necessary—such as castrating, docking, vaccinating and dehorning, etc. Two emergency calls are made each year free, and additional emergency calls at a stipulated rate. Medicines are free except in the case of expensive drugs and biological products, which are prescribed at cost price. The rate of contract pay in this particular instance is a five-dollar membership fee and a fee of 80 cents per year per productive animal unit.

The scheme has only recently been installed, and the veterinarians already speak in its favour as a steady means of livelihood—considering it as being the "backbone" of a practice. It is emphasised that one advantage is the fact that the veterinarian, being a regular visitor, keeps out the unqualified man, as the farmer desires him to castrate and do other simple operations which would otherwise fall into the hands of the travelling gelder, or have been done by the farmer himself. He also automatically gets congenial talks with the farmer and his friends over husbandry problems, such as breeds and breeding, feeding and such like subjects, which promote good fellowship between professional man and client. The salary is guaranteed by the Association, so that there are no bad debts—which are always the bugbear of the non-commercially-minded professional man. It is much like the Panel practice of the medical men of this country; and it is not fantastic to consider that the scheme has a practical basis, and the result will be watched with more than ordinary interest, especially by the practitioner in an agricultural district.

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Biography

COLONEL ROBERT J. STORDY, C.B.E., D.S.O., M.R.C.V.S.

In a further column we append an abstract from a Government White Paper in which is set forth with unmeasured terms of praise the service which our colleague, Colonel Stordy, rendered in Addis Ababa, not only to his fellow countrymen but also to those of numerous other nationalities, during the recent invasion of Abyssinia by the Italians.

For many years Chief of the Veterinary service in British East Africa, Colonel Stordy had made for himself a successful and very popular career, and it was with regret that his many friends saw him retire. However, unable to remain idle, he took a position as Veterinary Adviser to the Government of Peru, doing pioneer work in connection with farm land for sheep and lamas, unsexing the unfit, scientifically grading the wool and generally bringing the animals to a standard of modern fitness. After a few years of this he again retired, being tempted out of his shell by the opportunity to take command of the Veterinary Hospital which the Royal Society for the Prevention of Cruelty to Animals fitted out to go to Addis Ababa to help the sick and wounded animals used on the side of the Abyssinians.

For his services, at a recent meeting of the Council of this Society, Colonel Stordy was awarded the Silver Medal, and his two lay assistants, Messrs. Latham and J. S. Lloyd, late R.A.V.C. sergeants, each a bronze medal " for services to the Animal Welfare Cause in Ethiopia "; Mr. G. E. Owen, M.R.C.V.S., being awarded the Society's Certificate of Merit.

ERRATUM.

Owing to an unfortunate error, two illustrations appearing in the June number of this Journal were stated to refer to the article " Mineral Deficiency Diseases in Farm Animals," by Dr. J. Russell Greig. These illustrations had no connection whatever with the article in question, and we tender our sincere apologies to Dr. Russell Greig for the mistake.

Colonel ROBERT J. STORDY, C.B.E., D.S.O., M.R.C.V.S.

Chief Official of the R.S.P.C.A. Veterinary Hospital, sent to Addis Ababa to help the sick and wounded animals of the Abyssinians.

General Articles

ABSTRACT FROM REPORTS AND CORRESPONDENCE regarding the Rescue and Relief of British and Foreign Nationals at Addis Ababa during the Disturbances of May 2 to 6, 1936.*

Report by His Majesty's Consul.

Addis Ababa, May 15th, 1936.

Sir,

In connection with the attached detailed report on the Legation Refugee Camp of the 2nd to 7th May which I asked Colonel Stordy to make, I have the honour to report generally on the measures taken during April and the first week of May for the safety of British subjects and protected persons in Addis Ababa, as follows :—

2. The comprehensive " appreciation of the situation and plan of defence " made by the Officer Commanding the Legation Guard last September and revised by him on the 12th February had already set the framework for the security of both British and other foreign residents. It foresaw the development of possible untoward events in three stages : Stage I—requiring the protection of foreigners in the town by special measures to be taken by the Ethiopian police in touch with the Legations ; Stage II—on signs of the breakdown of these measures, the withdrawal of foreigners to their Legations, with Ethiopian police under their Belgian officers in control of the area between the Legations and the town, a problematical factor ; Stage III—on complete loss of control by the police, the withdrawal of other Legations and their refugees into the British Legation and a state of siege. This defence plan was adopted by the Legations' Central Committee, set up to concert measures for security in emergency.

3. At its fifth meeting of the 18th April, you will recall, you laid before the Committee the problem, set by the rapid Italian advance : Is there danger of interregnum and disorder before the entry of Italian troops ? After long discussion, it was decided to try to minimise the risk of disorder by advising the foreign communities to stay in their houses and at work and to give the town an example of calm. I wish to place on record the steady example given by nearly all the British communities, under the lead of their spokesmen, in the face of increasing general apprehension and in spite of the panic effect of the mass Armenian retreat to the French Legation and the withdrawal of women and children to the German Legation on the 19th and 20th April. It was probably largely due to the self-

* Abstracted from " Reports and Correspondence regarding the Rescue and Relief of British and Foreign Nationals at Addis Ababa during the Disturbances of May 2 to 6, 1936." Published by H.M. Stationery Office.

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control of our large Arab, Indian and Somali communities, and to the example of the influential United Kingdom group, that no trouble developed in the town during the ten days of indecision in which the Ethiopian Government was visibly losing grip and which preceded the Emperor's return to the capital on the 30th April.

4. While everything possible to postpone disorder was being done, short of organising a foreign police force, a project which every factor in the situation forbade, I obtained your authority to prepare for the worse within the scope of the defence plan. This entailed making embryo arrangements, with as little display and expenditure as possible, to receive an influx at short notice of at first the British and British-protected communities, numbering about a thousand, and later the other foreign communities, some 2,000 more. With the valuable co-operation of Major Charter and his Sikh working parties and the advice of Captain Palmer, I.M.S., camping, latrine, cooking and waterpoint sites were selected in the Legation grounds and wired.

5. To get in hand sufficient reserves of transport, food and shelter, I obtained the ready agreement of Colonel Llewellyn, Base Commandant of the British Ambulance Service in Ethiopia, to park in the Legation grounds his spare lorries and mobile repair unit and to pitch here and fill two large tents with the Unit's reserve of foodstuffs. Mr. Hack, British Indian builder, similarly agreed to collect into the Legation his stocks of timber and corrugated iron. These precautions bore mutual benefit, for the premises in town of both were gutted in the riots, while the stored material proved of the greatest use here for the rescue, feeding and housing of refugees.

6. As provisional camp officers I selected Colonel Stordy, chief of the Silver Star Veterinary Unit sent out by the Royal Society for the Prevention of Cruelty to Animals, and his assistants Messrs. Latham and Lloyd, since it was clear by mid-April that their own work was forced by circumstances to end. They transferred themselves and their equipment, much of which subsequently proved of great use, to a camping site in the Consulate garden, and Colonel Stordy was kind enough to take over and develop all the provisional arrangements for the reception and care of refugees. On the 28th April I made him " Refugee Camp Commandant and Quartermaster " elect. He perfected his preparations during the next few days, and was ready to cope with the influx of destitute refugees which began in the early hours of the 2nd May and continued for three days, rising from some 700 on the first day to a total of nearly 1,800 on the 5th May, day of the Italian entry.

7. I cannot speak too highly of Colonel Stordy's devotion to this exacting and voluntary task. His handling of every kind of problem was energetic and efficient throughout. His personality overruled all difficulties, material, physical, communal, including the strain of incessant work at an unaccustomed altitude and a relatively advanced age. His report pays well-earned tribute to the voluntarily conscripted staff which helped him to succeed so well.

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8. So much for the care of the 900 British subjects and protected persons gathered within the Legation defences, together with 620 other foreigners and some 250 Ethiopians, these mostly women and children. As for the security of the defences, the British communities, for whom I can speak, and many others are unanimous in their appreciation not only of the fully justified sense of military security with which the Legation Guard surrounded them, but also of the unremitting protection and help which the Sikhs gave by the erection of double-apron wire, the pitching of tents, the digging of latrines, and a remarkably energetic readiness to add every kind of fatigue to their proper guard duties. In addition to their proved military efficiency, I have myself never seen troops work harder or better.

9. Of the rescue operations which brought in hundreds of British subjects and others to safety, it is less my place to speak than the Assistant Military Attaché's. Captain Taylor, with Mr. de Halpert, devoted himself all and every day to the organising and leading of armed rescue parties composed mainly of British Islanders and including Mr. Trapman, His Majesty's Vice-Consul. It must, however, be said, with reference to the original plan of defence, that the situation developed so unexpectedly as a result of the Emperor's final acts in the night of the 1st–2nd May, and police control broke down so quickly and completely into common banditry, that no prearranged withdrawal of British communities into the Legation was possible. The rescue parties brought in all who were unable to make their own way to safety. A few, notably Mr. Press of the Bank and members of the Arab community, preferred to remain to defend their own houses. Although a number of British subjects were wounded, the only fatal casualty was John Melly.

10. My consular staff, namely, Mr. Iyer the Pro-Consul, Mr. Mohamedally Abdul Nabi the clerk, and Ato Tamssas the interpreter, ably assisted throughout in the work in the Legation grounds; the latter accompanying me on my first visit into town and the defences of Messrs. Mohamedally's headquarters on the 2nd May.

I have, etc.,

C. G. HOPE GILL.

Report by Col. R. J. Stordy, C.B.E., D.S.O., M.R.C.V.S., the Refugee Camp Commandant and Quartermaster.

With the fall of Dessié and consequent embarrassment of the Government, it became evident that, should the Administration cease to exercise authority, law and order in the Capital would suddenly cease to exist.

With a prevision begotten of experience, His Majesty's Consul took early action to plan the formation of a camp within the confines of the Legation, wherein refugees from the City and its environs might find that protection which the British authorities could afford them.

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Therefore, in consultation with Major Charter, O.C. Legation Guard, and his Medical Officer, Captain T. E. Palmer, I.M.S., the Consul selected a provisional site, and preliminary operations were undertaken to provide the Camp with an efficient sanitary scheme.

The extraordinary conditions prevailing in Addis Ababa had brought to a standstill the work of the Silver Star Veterinary unit which I had the honour to command, and accordingly, when His Majesty's Consul invited me to undertake the duties of Camp Commandant and Quartermaster, I accepted, and on the 28th April I became responsible for the subsequent preparations.

As the forest area was considered inadequate to meet a large influx of refugees, the main camp was laid out in the spacious open paddock lying to the south-east corner of the Legation grounds, leaving the forest area to be used as a screened position in case of danger, a shady retreat from the sun and an admirable situation for communal kitchens and camp bakery.

In view of the cosmopolitan nature of the foreign communities in Addis Ababa, it was thought wise to define areas for the reception of the respective nationalities and communities, and to group them in such order so as to minimise the danger of discord arising by reason of racial or religious prejudices. Accordingly the camping ground was laid out in eight sections, each section demarcated by lines of coloured posts set at intervals of 15 feet :—

Within blue posts	French and German.
Within orange posts	Greeks.
Within pink posts	Egyptians, Cypriots, Jews, Portuguese, Sudanese.
Within white posts	Armenians.
Within red and white posts ...	Indian Moslems, Bohras.
Within green posts	Arabs and Somalis.
Within yellow posts	Hindus.

A pathway, 4 ft. wide, separated each section and afforded a means of retreat to the forest area in case of emergency, while between the forest area and the camping ground an 18 ft. avenue, common to all, was laid out, and this gave access to the communal kitchens, refuse pits, and men's and women's latrines. On the north side of the pathway, running from the main gate of the camp to the camping ground, space was provided for a large number of motor lorries and private cars.

British Islanders, American and Scandinavian nationals were provided with camping ground below the Legation Residence, where the large spreading trees afforded grateful shade.

It was indeed well that all these arrangements had been made, for in the very early hours of Saturday morning, the 2nd May, an extremely serious situation suddenly developed in the City and, ere sunrise, a considerable number of refugees presented themselves at the Legation gates appealing for admission, and were at once placed within the grounds.

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SILVER MEDAL OF THE ROYAL SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.

The following resolution was unanimously passed by the June Meeting of the Council of the Society :

" Meritorious Service.—On the proposition of the Chairman, it was unanimously resolved that the Society's Silver Medal be awarded to Colonel Robert J. Stordy, C.B.E., D.S.O., M.R.C.V.S., for his services to the Animal Welfare Cause in Ethiopia ; and that the Society's Bronze Medals be awarded to Messrs. G. Latham and J. S. Lloyd ; with the Society's Certificate of Merit to Mr. G. E. Owen, M.R.C.V.S., for their respective services to the Animal Welfare Cause under Colonel Stordy."

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In due time His Majesty's Minister, Sir Sidney Barton, gave orders for the refugees to be received in camp, and the camp gates were thrown open. As the day advanced, the looting and rioting in the City extended, and created such panic that the flight of the refugees assumed the proportions of a rout, hundreds of men, women and children seeking asylum within the Legation grounds. Their flight had been so precipitous that many arrived in camp with only the apparel they were wearing. While the more fortunate brought with them remnants of their personal effects, many were in an extreme state of fear and exhaustion, others with feelings obviously blunted by reason of grievous loss sustained.

Each person on arrival was registered and given a coloured ticket corresponding to the colour of the section set aside for his reception. Each ticket was numbered, and thus the number in each section could be at once ascertained, and the total number in camp recorded for rationing. At the Legation gates all firearms were caused to be surrendered, an identification tally attached, a receipt given and the arms stored with the Quarter Guard. The surrender of arms was imperative in order to ensure the safety of the camp population, and scrupulous care in searching everyone entering the grounds had to be exercised, for even beneath the voluminous skirts of the Greek clergy automatic pistols and pouches of ammunition were found concealed.

As the numbers in camp increased the provision of tentage became a very serious problem. A number of corrugated iron sheets, previously stored by order of His Majesty's Consul, and half-a-dozen tarpaulins of large dimensions, supplied from the Silver Star Veterinary Unit's equipment, were placed in service, and these, supported on hastily constructed wooden frames, gave some sort of shelter to the refugees during the first night in camp, which was happily moonlit and dry.

On the following day, Sunday, the 3rd May, the Legation Guard moved into their new barracks, and thus released a substantial quantity of tentage, but even this valuable addition did not suffice to meet requirements. It was reported that a considerable number of corrugated iron sheets left by Greeks could be obtained from the ground of the Belgian Legation, so a party was despatched in a motor lorry and successfully returned with some 300 sheets of much needed material. The small hospital which serves the Legation in normal times was packed with Sisters from the Swedish Mission, the verandah of the dispensary became an open-air dormitory, and even the cells of the Consulate prison were requisitioned for storage. Board and lodgings were generously provided in the respective private residences of the Legation Staff, and Sir Sidney and Lady Barton, notwithstanding their multifarious duties and their long and anxious vigil at the bedside of the mortally wounded John Melly, provided accommodation and offered hospitality to a large number of the Diplomatic Corps and personal friends.

It was therefore somewhat satisfactory to know that on the second night of the camp—a night of heavy rain—everyone had been provided with a modicum of shelter. Still, much damage was done to bedding, furniture, sewing-machines and other property for which no provision could be made.

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Every hour saw numerous additions to the camp population until a total of approximately 1,520 persons had been registered, exclusive of Abyssinian men, women and children, numbering close on 250 souls. Of those, a large number were members of Missions conducted by various English, American and Swedish Societies.

The registered persons, numbering 1,520, comprised members of twenty-eight nationalities and communities, as follows :—

Americans	31	Jamaicans	1
Arabs	253	Jews	16
Armenians	174	Latvians	2
Austrians	8	Moslems, Indians ...	198
Belgians	12	Poles	1
Bohras	160	Portuguese	6
British Islanders ...	33	Russian	12
Cypriots	8	Scandinavians ...	14
Egyptians	12	Somalis	30
French	15	Spanish	1
German	11	Syrians	2
Goanese	7	Turks	29
Greeks	319		
Hindus	161		1,520
Hungarians ...	4		

It was at first calculated that the Armenians would be the largest community to take advantage of the camp, and accordingly an adequate section was marked out. As the figures prove, the Greeks were the largest represented. The paucity of the British to the total number of registered persons is particularly worthy of mention.

Water Supply.—Water from a protected spring and made available by means of a pipe-line laid on to the ground supplied the entire camp. There were instances of persons tapping other sources of supply, but this was exceptional, and, on the whole, there was little trespass.

Canvas buckets and nose-bags, supplied by the Veterinary Unit, proved admirable for the distribution of water throughout the camp.

Rations.—During the first 24 hours of the camp the issue of rations was irregular, but with Messrs. de Clermont and Davidson undertaking the supervision of this important section, a regular time-table came into force.

The rations consisted of flour, rice, dal, ghee, lentils, sugar and salt. The more fortunate of the refugees eked out these by a small addition of canned provisions, but the majority had to rest content with the plain but wholesome fare provided. The women folk of the various sections very promptly had their culinary arrangements made, camp fires set agoing, and, with such improvised girdles as iron drum ends, petrol tin plates and walking sticks as rolling-pins,

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were soon busily toasting Chapatees and scones for their families. The absence of a bread ration was, however, sorely felt, and the construction of a camp oven was therefore undertaken. The oven started to function on Monday, the 4th May, and the first batch of small bread was issued. It cannot be claimed that the bread was a shining example of the baker's art, for the oven had failed to generate the necessary high temperature owing to the clay of which it was composed being still damp and the fuel too green to possess any calorific value; nevertheless, all thanks are due to the skilled bakers who willingly gave their services in an endeavour to provide the camp with a bread ration.

To ensure the safety of the stores of the British Red Cross Unit, and at the same time to provide an additional source of supply of food-stuffs in case of eventualities, the Consul had invited Colonel Llewellyn to place them within the Legation grounds; subsequent events proved this to be a most advantageous arrangement, for, through the courtesy of Colonel Llewellyn, a considerable quantity of stores was issued to assist in the rationing of the British and American section, and the maize meal, imported for the Kenyan native personnel of the unit, was issued to native servants as an admirable substitute for flour.

Messrs. Gardiner, Roberts, Steer, Taylor and Trapman did great service in salving considerable quantities of stores from the premises of Mohamedally, and transporting them at considerable personal risk to the Camp canteen.

Clothing.—To the destitute, especially the young children, an issue of blankets was made from the Legation hospital, but it is feared that the small number available did not suffice to meet every deserving case.

Camp Sanitation.—To maintain as far as possible the camp in a healthy and sanitary state, Captain Palmer had instituted measures for the chlorination of the water, had taken early action to provide the camp with fly-proof latrines, and, as typhus fever is endemic in Abyssinia and liable to renewed manifestation wherever large numbers of natives are congregated, he has made, with the active co-operation of Dr. Hanner of the Swedish Mission, arrangements for the fumigation of all wearing apparel and for the inspection and delousing of the native population within the grounds.

Dispensary.—Captain Palmer, assisted by Drs. Hanner and Senyavin, were on duty daily at the dispensary at 8 a.m. and 4 p.m.

The number of patients attended were :—

		Gunshot wounds.
Saturday, May 2	22	—
Sunday, May 3	51	10
Monday, May 4	67	12
Tuesday, May 5	119	21
Wednesday, May 6	55	(camp evacuated)

Of the gun-shot wounds only two were caused within the camp; one, a multiple wound of the thigh from a spent bullet fired from a nearby village,

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which passed through the fly of the tent, the other, a boy playing with a live cartridge which exploded, causing laceration of the right hand. Mr. Alfred Buxton arrived in camp with a gunshot wound in the left leg, the result of rioters attacking his caravan when evacuating his mission to safety. At the same time two Ethiopian female members of his staff were killed.

It should be here recorded that the Nursing Sisters of the Beita Saidi Hospital gave valuable assistance to the sick and wounded. Jomadar Harbant Singh and Nursing Orderlies Bishan Singh and Karim Singh, of the Indian Hospital Corps, remained on duty night and day throughout the duration of the camp.

Deaths.—May 4th.—An Arab brought into camp with a gun-shot wound in the head died in hospital. *May 5th.*—Dr. John Melly, gun-shot wound in the chest, died at Legation Residence.

Picquets.—Picquets supplied by the Legation Guard were stationed at several points around the camp, and during the nights of the 2nd, 3rd and 4th May additional picquets, drawn from refugee volunteers, were posted.

It is pleasing to record that the order maintained was excellent, and, with the exception of one or two cases of petty theft, no untoward incident occurred; nevertheless, it was thought expedient to round up all Abyssinian males, for there were good reasons to doubt their trustworthiness, and on Monday, the 4th May, every adult male was paraded and interrogated, and only those who could be vouched for by their masters registered and allowed to remain.

The reckless discharge of firearms by natives, who had become wildly excited through the acquisition of large quantities of ammunition pillaged from the Government arsenal, was a constant source of danger and annoyance. With the exception of the cases of wounding already mentioned, fortunately, no further harm took place, but every now and again a spent bullet was heard to fall, and the Sisters of the French Catholic Mission, closeted in the Legation Hospital, had a narrow escape when a spent leaden bullet, fired from some obsolete weapon, came through the open doorway and passed over the recumbent figure of a praying nun, to lodge itself in the floor.

The Work of Rescue.—Situated as the British Legation is some 6 kilom. from the centre of the Capital and approached for the greater part of the distance along a road marked by dense eucalyptus woodland, those engaged in the work of rescue had indeed a precarious task to perform. Captain Taylor is, it is understood, dealing with this aspect of the situation, and it is left to him to record the brave and excellent work accomplished.

Arrival of the Italian Forces.—On Tuesday afternoon, the 5th May, the advance column of the Italian Expeditionary Force was heard approaching, and at 3.50 the first cars escorted by a motor-cycle patrol passed the gates of the Legation over which was unfurled the Union Jack. Right on throughout the night the monotonous drone of engines and the rumbling of heavy vehicles continued. By 8 a.m. in the morning of the 6th May it was estimated that some 2,000 motor

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vehicles had entered Addis Ababa, bringing from Asmara by way of Dessié an army of occupation of close on 25,000 men.

Exodus of Refugees.—The arrival of the huge Italian Army brought the reign of terror to a close, and, with security established, refugees were permitted to leave camp on the morning of the 6th May. As all were naturally anxious to ascertain the extent of the damage to home and property, the exodus from the camp, although rapid, was conducted in a very orderly manner, and by the evening of the 7th May the refugees' camp had closed its gates.

Refugees' Appreciation.—The period of the camp, short in duration it is true, was nevertheless a time of severe strain and anxiety, and as the evacuation of the camp proceeded, many refugees of all classes stepped forward and expressed —often in faltering terms—their appreciation for the security, courtesy and hospitality vouchsafed them by His Majesty's Minister and Staff. Such appreciation made one feel that our labours had not been in vain, and that the task accomplished under extremely difficult conditions had once again maintained the high prestige of our race.

Acknowledgments.—To everyone who lent a helping hand my grateful thanks are due, but I would be found wanting in my duty were I to omit to make special mention of the eminent services rendered by the following gentlemen: Mr. Cecil Hope Gill, His Majesty's Consul, Major Charter, M.C., O.C. Legation Guard, Captain Palmer, I.M.S., Captain Keen, Legation Guard, Lieut. Pearson, Legation Guard, Messrs. G. Latham and J. S. Lloyd, Silver Star Veterinary Unit, Mr. M. C. Hack, Indian Contractor, Mr. de Clermont, Arabian Trading Company, Mr. Davidson, Besse and Co., Colonel J. Llewellyn, C.B.E., British Red Cross Unit, Major Moschrpoulos, Messrs. A. R. Craig, P. Roberts and A. Trapman, Legation Staff, Mr. Bevan, Bible Society, and Mr. Zagoridis of the Greek community.

These gentlemen, by their ready co-operation, energy and loyal support, contributed largely to the success which attended the Legation Refugee Camp.

ROBT. J. STORDY, *Colonel,*
Camp Commandant and Quartermaster.

May 12th, 1936.

SOME ASPECTS OF ANIMAL HUSBANDRY.*

By Professor WM. C. MILLER, M.R.C.V.S., F.R.S.E.
Royal Veterinary College, London.

WHEN the agricultural history in Britain of the last thirty-five years comes to be written, the first twenty years will be regarded as the bacteriological era. It was during this period that certain important bacterial diseases, such as tuberculosis, anthrax, glanders, blackquarter, Johne's disease, contagious abortion in cattle, and many others—were investigated, their causal agents defined, and

* Abstract from the "Journal of the Yorkshire Agricultural Society."

measures devised for their control or eradication. Some, such as glanders, have now been eradicated ; others, such as blackquarter and anthrax, can be prevented, controlled, or localised by the adoption of suitable measures ; while some are with us still, chiefly because of the almost insuperable financial and economic difficulties which would attend legislative measures drastic enough to effect their suppression or eradication.

The last fifteen years have seen the development of an intensive study of virus (as distinct from bacterial) diseases. Many conditions which were previously known to be caused by viruses have yielded up their secrets and effective measures have been taken to control them.

Among such conditions are rinderpest, Borna disease, swine fever, louping-ill, distemper and several diseases in man. Even foot-and-mouth disease, probably the most infectious disease in either man or animals, is no longer a mystery, though it still has baffling aspects which have defied all investigators up to date.

The next ten to twenty years will in all probability bring greater developments in the prevention of disease and in the production of better animals and animal products. It is becoming more and more clearly recognised that many losses from illness and disease can be avoided or prevented by the application of recently acquired knowledge, especially in methods of management and rearing of young stock of all kinds. Intimately involved in this is the question of better and more rational nutrition. Some of the most spectacular instances of the advantages of corrected rations are already well known. As examples may be mentioned, rickets in young pigs and puppies, due to inadequacy of calcium and vitamin D ; anæmia and general weakness in young pigs due to lack of iron and its catalyst copper (required for the absorption of iron into the system) ; the development of various goitrous conditions, slowness of growth, and lack of normal development in nearly all young animals due to a deficiency of iodine, which is not perhaps of widespread importance in an island country such as Britain, though it is so in many continental countries. Similarly, adult animals may suffer from various deficiencies with striking results. These have been described in numerous articles by other writers and should be consulted elsewhere. It is with questions of management and animal husbandry more specifically that this article is intended to deal.

Properly speaking, animal husbandry consists of those aspects of breeding, rearing, feeding, and managing healthy normal animals which result in the production of the best that an animal by its breeding is capable, whether measured as beef, mutton, or pork, milk, wool, or as work. With the change in agricultural practice which is gradually taking place in Britain owing to State efforts to " rationalise " the industry—development of Marketing Boards, Schemes, etc., animal management is beginning to occupy a more important place in farm practice. There would seem to be two ways of dealing with this complex question. The first is to effect a standardisation of animal production and products by the adoption of uniform methods by all producers in a large area. In countries abroad

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where these conditions operate, rules are drawn up by experts under some degree of State surveillance and, within limits, anyone who follows these rules can produce animals and their products of a fairly reasonable standard and uniform type. There is, under such a system, little or no chance for individual competition or initiative, but there is a fair measure of guarantee against failure. Few animals of supreme standard are produced, but the bulk of those raised are of good average uniform quality. To a very large extent, this type of management has been developed to meet the demands of a constant or only slowly changing market, and where fairly narrow scales of prices operate at the selling centres there is even less reward for individual pre-eminence. Such conditions may be summed up as being somewhat dull but safe.

Under the second system, there is ample scope for an individual to exert his own influence upon his stock. Opportunities for enterprise are open to the gifted, the far-seeing, or the hardworking owner, and the monetary rewards he receives are, in a general way, in keeping with the quality of the stock he produces. The highest prices are obtained for the best animals and the lowest for the poorest. This has been the British system hitherto. Until within the last few years, there has been little or no direct interference by the State in the internal affairs of the farm ; but equally there has been no State guarantee from failure to find a satisfactory or even a reasonable market. Under this system, animals with phenomenal characteristics have been produced by the best men working with each breed, and a reputation for superior quality has been achieved both at home and overseas. But there has been far too large a proportion of animals of inferior type and quality owned by the lower ranks of breeders and found on most of the purely commercial farms, where nondescript cross-breds have been (and in many districts still are) one of the commonest features of the countryside. It has often been a matter for comment by visiting stockmen from overseas that the quality of the average cattle and sheep on the majority of British farms is astonishingly poor for a country which exports such high-class stock overseas.

These facts should keep the average British commercial stocksman very humble indeed. Even with the examples around of those who have made of Britain the " stud farm of the world," it required the economic crisis of recent years to force upon agriculture measures calculated to effect general improvement of stock.

Management.

In a general article dealing with basic general principles rather than with specific treatment, there is no adequate opportunity to consider all that could be done to improve the management of animals, but some instances will be given. Those touched upon are such as the average farmer will find well within his capacity to carry out.

1. Routine Weighing.—In experimental stations where feeding trials are carried out, a weighbridge is a most important item in determining the progress made on different rations. It is remarkable that so few large fattening farms

possess a weighbridge, and in those that do how seldom it is used for regular routine weighing of bullocks during winter months. Its chief use is often to weigh the cattle just before these leave for market on the morning of the sale—when it is too late to use the records to effect necessary changes in diet. It is so obvious that very much useful information can be obtained during feeding by a study of monthly weight records that further discussion is hardly needed. It may be pointed out, however, that regular weight charts, besides indicating that a beast is making good, bad, or indifferent progress on the standard ration, and showing when adjustments or increases are required in the constituents or amounts fed, are capable of giving very much more information if used intelligently. A proportion of cases of early tuberculosis can be brought to light before too much time and expense have been wasted in trying to fatten them. The checks in bodily condition which result from changing the teeth can be noted, and where the jaw is badly formed, impacted molar teeth can be inspected with a view to the necessary surgical measures being taken to correct them before too much time is lost. With cows or heifers believed to be in-calf a useful check on the progress of pregnancy can be obtained by noting down the increase in weight which occurs during the first half of pregnancy, while with milking cows any undue loss of body weight can be noticed more quickly by watching the charts of body weight than by even the most careful visual observation.

Some years ago when pig owners were being urged to adopt a system of weekly or fortnightly weighings as a check upon the actual progress made by fattening pigs, all sorts of objections were raised. It was thought that weighing would take up too much time; that the disturbance to the pigs occasioned by the actual weighings would put them back and upset them, and that the expense of purchasing a pig-weighing machine would not be justified. The best answers to these objections are in the words of those who have installed them, viz :—

"They have saved the initial outlay many times over, since rations can be adjusted to meet indications shown by the weight charts."

"The pigs have suffered no check by being weighed once a fortnight."

"The time taken by weighing is negligible; on the converse, it is time well spent, for it serves to maintain a lively interest by the pig man in the progress of fattening," etc.

Few, if any, who have bought pig-weighing machines and used them, could now afford to be without them. It is equally true that where once the cattle-man becomes "weight-conscious," he finds an added interest in his work and looks forward to weighing days. The results stimulate him to do his best, and to give his more wholehearted co-operation to his master.

II. Grooming of Cattle.—If a Victorian farmer had been advised to groom his fattening bullocks he would probably have found cause for robust and hilarious laughter in the remark. Yet the same Victorian farmer coined the trite and apt phrase—"A good grooming is equal to an extra feed a day"—where his horses were concerned. Amongst cattle-owners, the progressive dairy farmer has

at last, though only slowly, been persuaded to groom his cows once daily He agreed to do it more in the interests of clean milk production than because of its physiological effects on the skin, but now he fully appreciates the dual beneficial advantages. More than a little of the saleability of a fat bullock depends upon its " bloom " and its coat, as the Fat Stock Show exhibitor very well knows. An enormous improvement could be made in the appearance of the great majority of the commercial fat cattle exposed in any average market if they had a daily grooming for six weeks before the date of sale. Apart from mere appearance, however, grooming, conscientiously and regularly carried out, is a form of massage, which serves to stimulate circulation in the skin and surface muscles and to encourage and assist the even distribution of fat under the skin and, what is more important, among the muscle fibres, where it is wanted by butcher and consumer. A badly-bred scrubby type of bullock, with poor skeletal conformation and a tendency to patchiness of fat on " hook-bones " and " pin-bones " cannot, of course, be converted into a bullock of first grade quality by any amount of grooming, but a good average bullock can be improved enormously by being groomed daily with a stiff dandy-brush over back, loins, and quarters especially. It is surprising how soon, with careful handling and treatment, cattle learn to stand quietly, tied by the head, while grooming is carried out. Some can be groomed while feeding without being secured. Those that are fattened in a byre, or in sheds where they are already tied, present no problem so far as control is concerned.

III. Disbudding.—Although it might be legitimate to argue that cattle of practically all breeds are gradually becoming more docile as the years go by, there are still sufficient numbers of " rogues " among them to warrant the advocation of a greater use of the caustic potash, or caustic soda stick, in calves (destined to become beeves or bullocks) when they are a few days old. The individual owner who during a year has an odd few beasts bruised, lacerated, or actually gored by the horns of one bad-tempered animal is not in a position to realise the real extent of the damage done by horns. The butcher who buys in the open fat market and the local veterinary practitioner get a far better conception. The former sees the injured flesh under the skin, and the latter has to treat the more severe injuries. The absence of horns in a bullock may be a disadvantage æsthetically, but practically it is obviously a great advantage. Similarly, the mature cow which develops bullying propensities may readily poke a horn into a valuable udder and ruin a promising heifer's performance. The use of cutters to remove the sharp tip of each horn before the herd is turned out to grass in spring, or the use of screwed knobs or large-sized iron nuts, can save many such accidents. Owners of breeds with specially sharp-pointed horns, such as the Ayrshire, are finding blunted tips or knobs of great service.

IV. Disinfection and Cleansing of Cattle Courts.—Unfortunately, it is in the nature of things that most farm steadings are inadequately supplied with really satisfactory loose-boxes, and the same box that is used for nursing a case of strangles

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or influenza in a young colt is also employed for foaling a mare; and when the occasion arises it may have to house a bull, a cow with mastitis, a "piner" (tuberculosis), or perhaps a few calves, at other times. Between these uses a sketchy cleansing may be carried out, but it is more likely that some new bedding is put down over the old and the manger cleared of food residues without any effort being made to destroy possible infective material left over from a previous case.

Here again it may be pointed out that with the development of a more accurate knowledge of the principles governing clean milk production the cow-shed is receiving far better attention than it ever did before, and yet few people consider the desirability of keeping other premises equally cleansed and disinfected, until an outbreak of disease occurs, when it may be too late. During post-war years many premises used for calves, pigs and bullocks received the first real disinfection they had ever had only when an outbreak of foot-and-mouth disease occurred on the farm and scrupulous disinfection then became essential. Doubtless there are to this day numerous premises which have never been really cleansed since they were originally built.

V. Control of Sheep Maggots.—The past few summers have been remarkable on account of the high incidence of sheep struck by maggot flies in most parts of the country.

Systematic spraying of low ground sheep and lambs with a weak solution of coal-tar disinfectants throughout the summer and early autumn months has been shown to be an effective method of preventing strikes. The sheep should be penned up fairly close, but with room to move around, and a very fine mist-like spray directed on to them from overhead once weekly. Some form of continuous-action spray-pump, similar to those used by horticulturalists to spray rose trees affected with greenfly, is most useful. The finer the spray the better, as it clings to the wool more intimately and is not wasted by running off. About 2 to 2½ gallons of a 2 per cent. solution is sufficient for 100 sheep and only about 10 to 15 minutes are spent in actually spraying this number once weekly. This compares very favourably with the time, labour, and expense involved in catching and dressing sheep already struck, and avoids considerable loss through death or injury of affected sheep.

The method of spraying has been described in some detail in the "Scottish Journal of Agriculture" (for July, 1935), and is well worth adopting on those farms in low-lying damp, shrubby or wooded valleys, where maggots are likely to be most troublesome. It is, however, not so readily applicable on hill farms, where the problem of frequent gatherings is difficult.

It has been used with success for cows on one or two dairy farms where ordinary stable flies are very troublesome, and though it has not eliminated all trouble at milking time from flies, it has very considerably reduced the pestering of the cows by these troublesome insects.

FERTILITY IN SHEEP.*

By R. M. C. GUNN, B.Sc., B.Sc. (Agric.), M.R.C.V.S.
University of Sydney.

THE fertility or fecundity of a flock of ewes under normal conditions can only be measured by the percentage giving birth to lambs within a given period corresponding to that during which all have had equal opportunity of being served by rams. By this criterion it is generally recognised that the merino ewe is much less fertile than the ewe of the mutton type. The prolificacy, as measured by the percentage of twins or triplets born in any one season, is also less in the one than the other.

In a merino flock multiple births are rarely, if ever, desired. Suitable merino country is seldom of high carrying capacity. It generally ranges from one sheep per 3 acres to one sheep per 12 or 14 acres. Water supplies are often so far apart as to necessitate considerable travel daily. The herbage at times is not succulent, and hence not conducive to a large milk yield. And the merino admittedly is not, compared with other breeds, a good mother. All these circumstances render the single lamb more desirable than twins.

There does not appear to be any definite relationship between the percentage of twins born in any one flock and the percentage of births in any one year. It is known, however, that the percentage of twins born may be considerably increased by that treatment of the ewe prior to mating termed " flushing," a treatment found efficacious by generations of experience. " Flushing " consists not merely in providing the ewe with a more nutritious diet prior to mating; essentially it consists of affording females, which previously have been on comparatively low diet, a more nutritious diet for a few weeks prior to mating, the object being to rapidly increase the condition and the virility, and consequently favour the advent of " heat " or œstrum, and simultaneously the production of more than one ovum.

British breeds of sheep have been improved during the past 100 years with the main object of developing the mutton qualities, and as the demand for fat lambs has increased, so has the desire for twin births. These breeds being depastured on relatively rich herbage, often supplemented during the winter months with special feeds, the necessity for exercise in the quest of nourishment is reduced to a minimum. Hence twin lambs do not offer to the owner the same problem as they do to the merino flock-master. The increase in the lambing percentage of mutton breeds has been brought about, just as the increase in the fleece weight and wool quality of the Australian merino has been achieved, by careful and skilled selection.

The breeder of the mutton type of sheep has wisely considered not only conformation, but the fertility of his flock as measured by the percentage of

* " Foreword," by Col. J. A. Gilruth, from the Report of the Chief of Division of Animal Health, Bulletin No. 94.

lambs dropped, or the percentage of ewes remaining barren although having had the opportunity of being served. With small flocks grazing closely in small paddocks no great difficulty is experienced in maintaining a close surveillance and in keeping exact records.

The merino breeder of Australia has considered his flock mainly, if not entirely, as a wool producer. Selection and mating has almost invariably been directed towards improvement of the fleece in character and in weight. Comparatively little attention has been paid to conformation, much less to fertility.

Though it is not expected, and indeed is not desired, for reasons already adduced, that the merino flock ewe should be as prolific as the ewes of mutton breeds, it is generally agreed that the lambing percentage in the vast majority of flocks, even in favourable seasons, is well under the hundred mark. During unfavourable seasons and in localities subject to serious rainfall vicissitudes it may be at times under 50, even less. Rarely it exceeds 90. These percentages are judged by the tallies made at marking. Seldom is definite information available regarding the mortality between birth and marking time, a mortality that must be subject to great variations. It is when stud records are studied, however, that one becomes convinced fertility is unaccountably low in many cases. Certain ewes fertile one year may be found barren next year, and *vice versa*. Some display what may be termed an indisposition to conceive, or to be fertilised, requiring a number of services during successive periods of œstrum before conception takes place, as is well known to those who practise hand-mating.

Early death and absorption or expulsion of the fœtus may occur in some cases, particularly during drought, but true abortion is undoubtedly rare.

To what extent the infertility of our merino flocks, as measured by the available standards, is due to environmetal conditions on the one hand and to heredity on the other is unknown. That the problem merits earnest attention is recognised by the Council for Scientific and Industrial Research, and arrangements have been made, with the co-operation of certain prominent breeders, supported by the generous financial assistance of the Australian Pastoral Research Trust, to prosecute investigations in a scientific manner. Faults may lie with the male as well as the female. Therefore, examination of the semen, produced not only at the time of service but at different periods of the year, is important. Obviously, the discovery of a method whereby this semen (which includes not only the secretion of the testicles with the spermatozoa, but of several other accessory glands) can be procured not only when desired, but in a state of purity, that is, uncontaminated by the secretions of the female and by bacteria, should be of the utmost importance.

Towards that end, Mr. R. M. C. Gunn, of the University of Sydney Veterinary School, has for several years been conducting experiments on a large number of rams, and has succeeded in devising a satisfactory method of artificially inducing ejaculation of semen by electrical stimulation when desired. He has shown that normal semen may be conserved for prolonged periods when so produced. During

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his investigations, a vast amount of new and valuable information has been secured. All of this will be of the utmost importance in the further investigations which have been arranged, and which will be conducted by the Council's Geneticist, Mr. R. B. Kelley, in collaboration with Mr. Gunn.

Mr. Gunn's report of his experiments and observations was recently submitted to the Senate of the University of Sydney as a thesis for the Degree of Doctor of Veterinary Science. One of the examiners appointed was Dr. John Hammond, of Cambridge, who is recognised as a high authority on the genetics of domesticated animals. One may be permitted to quote his opinion of the work, which was as follows :—

" I consider that the thesis forms an original contribution of distinguished merit, adding to the knowledge of the physiology of the male sex organs and spermatozoa. By the discovery of an electrical means of stimulating the nerves which cause ejaculation, he has been enabled to throw light on many problems hitherto obscure. Among these may be mentioned the nervous control of erection and ejaculation, the function of the filiform process of the penis, the relations between the amount of semen and secretions of the accessory glands in the ejaculum, and the effects of various drugs and hormones on the ejaculum. The fact that he has kept spermatozoa alive outside the body for as long a time (64 days) as they normally live in the epididymis, is a feat of no mean achievement, and is one which in itself both adds to scientific knowledge and is of great importance in the animal industry. . . . I recommend that the candidate be awarded the degree of Doctor of Veterinary Science."

The other examiners, Professor Priestley and I, heartily concurred, and the degree has been conferred.

Although Dr. Gunn's work has been conducted without any financial assistance by the Council, the officers of the Division of Animal Health have been always in close touch, and have been frequently consulted. For that reason, and in view of the value of the work generally, particularly as a necessary preliminary to extensive research on the problem of infertility, the Council, with the concurrence of the University of Sydney and of Dr. Gunn, has decided to publish the work as a Bulletin.

J. A. GILRUTH,

10th April, 1935. Chief, Division of Animal Health.

SUMMARY.

A method of artificially producing emission of normal semen by electrical stimulation is described.

The resulting ejaculum has been collected in fractions which correspond to those emitted during coitus.

Electrical stimulation causes complete emptying of the vas deferens.

The effects of a number of drugs on ejaculation are recorded.

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Frequent ejaculation has been found to be innocuous to rams.

The maturing of spermatozoa in, and their passage through, the epididymis is discussed.

Spermatozoa, obtained from rams by this method, and stored "in vitro" at 4° C., survived 12 days or more in average ejacula, up to 28 days in the separately collected middle fractions of ejacula, and up to 64 days in ejacula collected from animals which had been previously injected with pituitary emulsions.

The factors influencing the longevity of spermatozoa stored "in vitro" are discussed.

The results of insemination of ewes with artificially produced ejacula are recorded.

The wide application of the method is discussed.

Clinical Articles

A Case of Dystokia in a Buffalo.

By S. P. DESHAPANDE, G.B.V.C.

Poona, India.

Subject.—A buffalo belonging to a cultivator in a neighbouring village. It was admitted at 12 noon on 15th December. The animal was in labour pains for nearly 44 hours, *i.e.*, since the afternoon of the 13th. On 14th and 15th the people of the village tried to relieve the buffalo, but their efforts being unsuccessful, they brought it to the Hospital in a bullock cart.

The genital passage was greatly congested. The fore legs of the fœtus protruded up to the knees. There was considerable straining, and the beast was somewhat exhausted due to protracted labour. The pulse was accelerated but quite strong. The temperature was 102.20° F.

A dose of chloral hydrate, 1 oz., was given in a pint of water. With due precautions I tried to insert hand and manipulate the fœtus. The whole passage was congested a great deal and the fœtus was emphysematous. Nothing could be traced except the fore legs up to the shoulders. The fœtus also could not be moved in spite of lubrication and traction. I tried for half an hour, but my efforts were unavailing. There being no other alternative the owner was informed of the risk, and it was decided to perform Cæsarean section

Chloroform was administered by inhalation and brought about profound anæsthesia. The right flank was prepared for operation. An incision was made in the flank, 14 inches in length. Then the muscles and the peritoneum were incised, each layer being held by pieces of catgut which was fixed to the edges

of the layers to facilitate closing the wound. On cutting the peritoneum the uterus bulged out. Intestines were packed in position by sterile towels. The uterus was incised, the incision being about 8 inches in length. The fœtus was removed by traction on the hind legs, as these were near and convenient. At the same time the fœtal membranes were removed with due precaution, and oil of lysol lotion injected into the uterine cavity. The uterine wall, peritoneum, muscles and skin were sutured one by one with strong interrupted catgut sutures. Tr. of iodine was applied externally and the area protected with lint and cotton paddings. The operation took one hour and a half to complete. One hour after the operation, *i.e.*, at 4 p.m., the buffalo was sitting down and seemed to be much relieved though greatly exhausted. She drank half a bucket of water of her own accord. A stimulant dose of liq. strychnine was administered and repeated twice every four hours. At 12 o'clock that night the buffalo again took water and was sitting comfortably. The pulse, though accelerated, became weak, and the temperature was 101.40° F. During the night she was covered with a warm rug. Early next day, *i.e.*, at 6 a.m., she was lying down prostrate and at times groaning with pain. A stimulant was given, but she did not take it well. The temperature fell to 99.40° F., and the pulse became extremely weak. At about 9 a.m. death took place from exhaustion and shock following the protracted labour.

Stricture of the Jejunum in a Puppy. Bowel Resection—End to End Anastomosis.

By J. G. WRIGHT, F.R.C.V.S.

Surgical Department, the Royal Veterinary College, London.

THE subject of this report was a 10 weeks old Dalmatian male puppy. It was presented with the history that for the past six weeks there was "something wrong with its stomach." The symptoms were: frequent daily bouts of acute abdominal pain which generally culminated in the vomiting of food taken an hour or so previously. Appetite good, no diarrhœa, and when free from pain quite bright and playful. Examination revealed the puppy's condition to be poor, weight 8½ lb., temperature 101°F. The eyes, nostrils, mouth and teeth were clean. The abdomen was tense, there was considerable tympany, and palpation was resented. A localised thickening of the intestine, fusiform in shape, 1 in. long and ½ in. broad, judged by its position and mobility to be the jejunum, was definitely palpated. Amongst the conditions reviewed when making a diagnosis, were the following: Partial obstruction of the jejunum by some soft foreign body such as a piece of a sorbo-rubber toy—quite a possible explanation, as the lesion was not painful on pressure. Local obstruction by a pin, brooch or other sharp object which had penetrated the bowel wall and set up an inflammatory reaction: the absence of pain on pressure tended to negative this. A recent short intussusception resulting from spasmodic gut contraction due to tympany:

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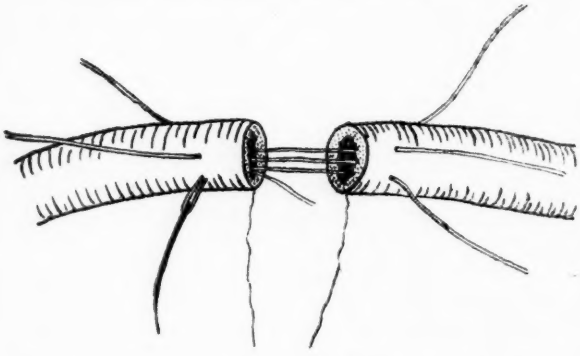
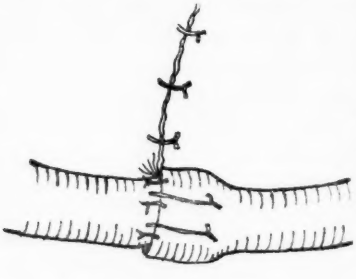
whilst this was a possible cause there were features about the history of the case which tended to negative it. The commonest cause of intussusception in the puppy is the enteritis associated with canine distemper. In this case the animal had remained bright throughout, the appetite was maintained and there had been no diarrhœa. The conclusion arrived at was that the case was one of partial obstruction of the jejunum, the positive cause being unknown.



Under nembutal anæsthesia (intravenous injection—2 grains) a laparotomy was performed, the abdominal cavity being opened by an incision 1 in. long in the left flank, and the affected portion of the bowel drawn out of the abdomen. The lesion comprised stricture of the jejunum due to cicatricial tissue in its wall. Local peritonitis had caused it to become firmly adherent to the loop of bowel adjacent to it, the whole being surrounded by adherent omentum. In front of the stricture the bowel was distended by gas.

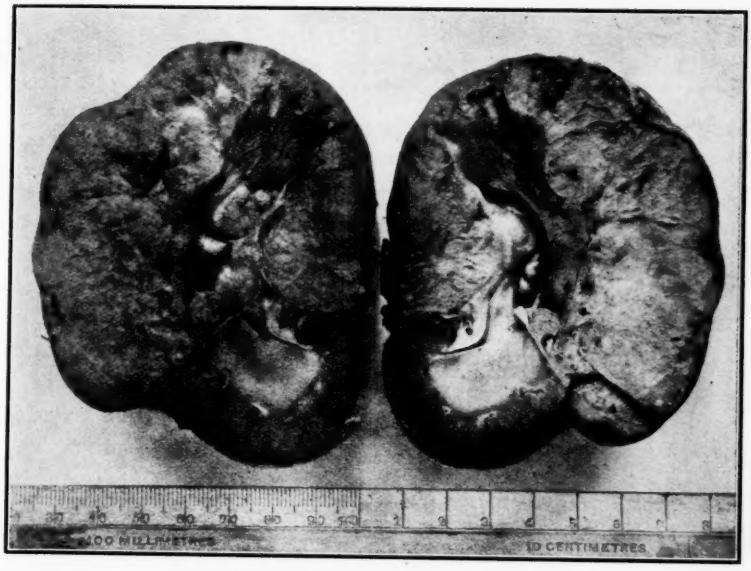
The omental stalk was ligated and severed. The attached normal portion of bowel was dissected away, and the two inches of jejunum involved in the stricture, resected, employing the usual technique. The object of this report is to indicate the method employed in effecting end-to-end anastomosis. By means of three No. 0 gut sutures one end of the bowel was telescoped into the other for a distance of a quarter of an inch, and the union reinforced by suturing the free end to the serous and muscle layers of the invaginated portion. (No. 0 silk.) The join was finally surrounded by omentum held in position by a few sutures. No special after-treatment adopted and the puppy made an uninterrupted recovery.

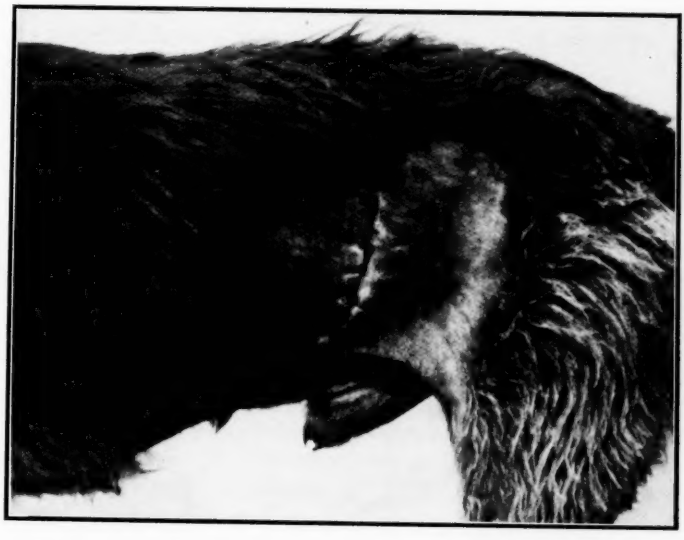


Numerous methods of effecting bowel anastomosis have been introduced, including the use of metal " buttons," decalcified bone tubes, etc., but they all have disadvantages. Lateral anastomosis has been successfully carried out in the dog on a number of occasions ; the author recorded such a case in this journal

Primary Carcinoma of the Kidney in the Dog (seven years old Airedale terrier cross male).

(Article by Mr. J. G. Wright, F.R.C.V.S., *page* 261*)*





Primary Carcinoma in the Kidney of the Dog.

(Article by Mr. J. G. Wright, F.R.C.V.S., *page* 261*)*

some years ago (VETERINARY JOURNAL, 1931, March, p. 109). This operation presents a number of serious difficulties, not the least of which are the great turgidity of the bowel wall and the narrowness of its lumen.

I wish to acknowledge the help received with these cases from my colleagues: Miss M. Oyler and Mr. P. Sutton.

Primary Carcinoma of the Kidney in the Dog: Operation of Nephrectomy.

By J. G WRIGHT, F.R.C.V.S.
Surgical Department, the Royal Veterinary College, London.

PRIMARY malignant disease of a kidney is a comparatively rare condition in the dog, as also are other indications for the operation of nephrectomy. Machin (*Veterinary Record*, 1932, No. 52, Vol xii) has recorded the successful removal of a kidney in a young dog, the indication being rupture of the organ as the result of crushing by a motor vehicle.

The subject of this communication was a seven years old Airedale terrier cross male. It was presented at the Beaumont Animal Hospital of the Royal Veterinary College on February 22nd, 1936, with the history that it had not been normal for the previous eight weeks. The symptoms were indefinite, and comprised mainly a poor appetite, disinclination for exercise and some loss of flesh. The owner had noticed a lump in the left flank when the animal was lying down. Examination showed the animal's condition to be fair; weight 35½ lb; temperature 102·4°, pulse normal, mouth and teeth clean. Urine: of good colour, specific gravity 1030, acid in reaction, a high albumin content, negative for bile, sugar and ketones. On abdominal palpation a tumour the size of an orange could be felt high up in the mid-abdominal region.

Amongst the conditions reviewed when making a diagnosis were the following: Enlargement of the ileo-colic lymphatic gland due to bacterial invasion, pyogenic or tuberculous; or to the development in it of a neoplasm-lympho-sarcoma. The position of the lesion was too far back for this gland. Neoplasm development, again lympho-sarcoma, in the bowel wall. The jejunum is the portion of the small intestine most commonly involved in neoplasm disease in the dog, and had this been the structure involved the lesion would have been much more freely movable and, of course, lie on the abdominal floor. Enlargement of the spleen due to hæmorrhage or neoplasm. Had such been the case the enlargement would have been situated more anteriorly, would have been against the abdominal floor slightly to the left side, and it is probable that the margins of the spleen continuous with the tumour would have been palpable. A tuberculous granuloma in the mesentery. Had such been the case peritoneal effusion would have been expected, together with a higher temperature and a much more rapid loss of flesh. This condition, however, could not be positively excluded. Finally, malignant disease of the left kidney. In view of the site of the lesion, the history

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of the case and the findings on examination of the urine, it was highly probable that this was the correct diagnosis, and so a laparotomy was immediately performed.

Anæsthesia was induced by the intravenous injection of nembutal, 5·5 grains being given. The abdominal cavity was opened by an incision 4 in. long in the left flank, care being taken to arrest hæmorrhage by ligature as the respective muscle layers were cut. It was found that the kidney was firmly anchored in the abdominal cavity by omental adhesions from which the neoplasm had taken on a new blood supply, for despite the application of ligatures as far as possible, the breaking down of these adhesions caused considerable hæmorrhage. For this reason 250 c.c. of a 5 per cent. solution of glucose in normal saline solution was slowly injected into the radial vein as the operation proceeded. Once the adhesions were released no difficulty was experienced in drawing the enlarged kidney well out of the abdominal cavity. A single No. 5 silk ligature served to ligate the renal vessels, and the ureter and the kidney was removed. The wound was closed in the usual way, employing gut sutures throughout. Recovery was quite uneventful, food was taken the day following operation, and the animal was discharged from hospital seven days later.

On March 7th, fifteen days after operation, the dog was presented for re-inspection. The owner reported it to be in normal health—weight 34 lb. On March 28th, report again animal normal—weight 38 lb. On July 1st, report quite normal and full of life, weight 39 lb.

Pathologist's Report on Specimen (Mr. A. B. Orr, M.R.C.V.S.).

The kidney weighs 270 grms. and measures approximately 10·5 by 8 by 6·5 cms. The surface is slightly roughened and very irregular, with prominent subcapsular veins. On section the majority of the tissue consists of a yellowish-white moderately firm new growth which shows some suggestion of lobulation. The remainder of the kidney tissue appears to divide the tumour into two parts, but it is only at the posterior pole that the organ shows relatively normal kidney tissue, the greater part of the kidney having been destroyed by the new growth. Histological examination revealed that the tumour was a columnar-celled carcinoma.

Removal of the Lens in Small Animals.

By A. L. BARTHOLOMEW, M.R.C.V.S.
Darlington.

THIS operation is performed in cataract and anterior luxation of the lens.

Three different operations have been used in the past, *viz.*: (1) Discission or needling of the lens capsule; (2) Luxation of the lens into the posterior chamber of the eye; (3) Extracapsular removal or extraction of the lens after rupturing the capsule. As far as cataract is concerned the above methods have met with only moderate success, so the writer has tried a fourth method, as recommended

by Nestfield in human practice, *viz.* (4) Intracapsular removal, or extraction of the lens and capsule intact.

(1) *Discission, or Needling,* is a fairly simple operation, but it is not satisfactory in the case of old-standing cataract, as the operation has to be done several times before complete absorption takes place. Sometimes after absorption is apparently complete a secondary cataract forms, while adhesions of the iris are common and often necessitate an operation on the iris unless blindness is to be the result. This method is the best for young animals in which the cataract is of comparatively recent origin and before the lens has become sclerosed. It is also very useful where the lens has become luxated into the anterior chamber. In this case, if seen early, the lens is normal in consistency and the capsule is thin and tense, with the result that the slightest prick with the discission needle is sufficient to cause a large rupture in the capsule and consequent absorption of the lens in three to eight weeks. Secondary cataract may form, but tearing apart with two discission needles usually suffices to clear up the condition.

(2) *Luxation* of the lens into the posterior chamber has sometimes very spectacular and immediate results, but return of the lens into the pupil is common. This operation is sometimes performed by accident while attempting discission owing to too much pressure having been placed on the lens.

(3) *Extracapsular Extraction* nearly always results in formation of secondary cataract, and adhesions of the iris are common.

(4) *Intracapsular operation.*—In my experience this operation has been fairly successful. The following are five cases operated on by this method:

1.—Cairn terrier, 4 years, with unilateral cataract, showed considerable improvement both in sight and appearance. Unfortunately died four months afterwards.

2.—Fox terrier, 7 years: double cataract, only one eye operated on. Showed great improvement in sight for about eighteen months, but, according to owner, blindness recurred for no apparent reason, as no secondary cataract or adhesions of iris were present. Was not seen personally after six months following operation.

3.—Fox terrier, 9 years: anterior luxation of lens of one eye. Very dense: "pearly" opacity of the cornea occurred several months after the operation. Was not seen until this condition had become hopeless. Fourteen days after the operation sight was improved and head pains gone.

4.—Mongrel terrier, 7 years: unilateral cataract; sight was greatly improved. Seen three months after operation it was impossible to tell that anything had been done to the eye except for a slight opacity round the incision scar. About six months later a cataract developed in the other eye, but the sight remained reasonably good, which proved, in my opinion, that the eye operated on was capable of a useful amount of reception.

5.—Sealyham, 5 years: double cataract. Both eyes operated on with reason-

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able success. Last seen three months after operation, when it could get about in new surroundings without bumping into furniture, etc.

On the whole it appears that the operation is worth doing, but only if the animal is blind or very unsightly. The following is a short account of the *modus operandi* :

Instruments required.—Lid retractors or spring speculum ; fixation forceps (1 to 2 teeth) ; Von Gräefe cataract knife ; iris forceps (curved) ; iris scissors (half curved) ; strabismus hook or suspensory ligatome ; dressing scissors and forceps ; suture needle. Optional : cataract spoon, piece of smooth metal with one end bent at right angles for about one inch for pressure on sclerotic in order to push out lens. Little finger does equally well if care is used.

Operation is carried out as follows :

The eye is well washed out with a mild antiseptic solution and the pupil is dilated with atropine. A general anæsthetic is used, and the patient is fixed on its chest with a good light shining on the eyes. For operating on the right eye the surgeon stands above and behind the animal, and for the left eye he stands directly in front of the animal. Either lid retractors or a spring speculum can be used, but the retractors are preferable if sufficient assistance can be had. The eyelids are held apart by either of the above means, and the operator grasps the upper conjunctiva with fixation forceps on the inner side near the cornea.

The point of a Von Gräefe cataract knife is then placed, cutting-edge upwards, about one-sixteenth inch above the centre of the circumference on the outside and at the corneo-scleral junction. The knife is now made to enter the anterior chamber, at which a certain amount of aqueous humour escapes. The knife is passed across the chamber parallel to the iris and the lens without touching either. It is made to come out at the corneo-scleral junction on the opposite side at a point corresponding to the point of entry. The knife is now gently raised with a slight sawing action so as to cut upwards through the corneo-scleral junction right to the top of the eye, making a complete crescent-shaped incision. Most of the aqueous humour now escapes and the anterior chamber collapses. Fluid and blood are now mopped up, retaining the hold on the fixation forceps, which are now handed to the assistant. The iris is now gently pulled through the wound with iris forceps and a liberal portion cut off with the iris scissors ; more bleeding results and the eye is again gently mopped.

A strabismus hook or a suspensory ligatome is now passed on the flat through the wound to the lower part of the iris and between this and the lens. When it is thought that the inferior margin of the lens is reached, the hook is rotated so that its blunt point goes behind the lens and so punctures the suspensory ligament of the lens. The hook is now gently moved round the lens for about half its circumference with the point still directed to the back of the eye. It is then moved back to the lower border of the lens and the lens gently pulled forward until the lower border is free in the anterior chamber. A light but steady pressure

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on the lower part of the sclerotic with a blunt hook, or the finger, will now bring the lens out of the wound. If this does not occur the gentle use of the strabismus hook or a lens spoon will complete the extraction. The eye is again mopped up and the lids drawn together with one or two silkworm gut sutures, making certain not to inturn the eyelids. A pad of cotton wool wrung out in antiseptic is now placed over the eye and a bandage applied.

The patient is kept in a dark kennel and on a light and laxative diet for eight to ten days. A sedative may be given for a few days following the operation.

The following day if the unstitched part of the lids is gently pulled apart it will be seen that the anterior chamber is partially filled out with aqueous humour and the eye appears much different to the collapsed and hopeless-looking organ of immediately after the operation. On the second or third day the anterior chamber may collapse again, due to an increase in the intraocular pressure, when a small piece of iris may prolapse through the wound. If this should happen it can be dealt with on the tenth day after the operation by touching with a hot wire. A few drops of phenolaine solution instilled into the eye several times daily will relieve the pain and prevent sepsis. The stitch should be taken out on the seventh day, but the eye should still be bandaged until the tenth day. It will be found that there is considerable opacity of the cornea, but this should clear up with ordinary treatment except for a slight film around the operation wound.

Experimental Thallium-Poisoning of Dog and Fowl.*

By UNO PLAZIKOWSKI and SVEN SVENSSON.

Summary.

THE authors describe some cases of experimental thallium-poisoning of dogs and fowls, which were poisoned by the administration of zelio-corn and zelio-paste, two rat-poisons containing some amount of thallium.

In the dogs, the most prominent symptoms of poisoning were dulness, diminished or total loss of appetite, rapid emaciation, increased pulsation, difficulty in respiration, diarrhœa, and alterations in the skin, in the form of eczema and a falling off of the hair. In one case there was noticed paralysis of the hind legs.

The most *characteristic* symptoms of thallium-poisoning in dogs appear to be a rapid emaciation, difficulty in respiration, eczema and a falling off of the hair.

A post-mortem examination of the dogs gave, on the whole, negative results. A histological examination showed, however, the presence of myocarditis, nephrosis, enteritis and dermatitis.

In fowls, the most prominent signs of poisoning were a bluish discoloration of the comb and wattle, paralysis of the legs, and diarrhœa.

Post-mortem examination showed fibrinous coatings in the œsophagus and crop, together with visceral gout.

* *Skandinavisk Vtrtdschrft.*, February, 1936.

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A method of chemical analysis is given, by means of which the presence of 5 milligrammes of thallium-sulphate per (approximately) 100 grammes of organic substance can be detected.

The most suitable investigation-material in the case of a rapid course of lethal poisoning consists of vomit that may possibly be present, urine, the contents of the stomach, and intestines. When the poisoning has a chronic, lethal course, the metal can best be looked for in the urine, musculature, liver and kidneys. A chemical examination of the urine will show the presence of thallium-poisoning in no more than a day or so after the poisoning has taken effect.

The lethal dose for a dog of medium size appears to lie between 0.1 and 0.2 grammes thallium-sulphate.

The lethal dose in the case of fowls seems to be between 0.05 and 0.06 grammes of thallium-sulphate, corresponding to about 70 grains of zelio-corn.

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Abstracts of Current Literature

The Gestation Period of the Cat.* By EVELYN B. H. SOAME, *Fur and Feather*, July 3rd, 1936.

IN the section devoted to cats in the issue of *Fur and Feather* for July 3rd, 1936, there appears a short article by Miss Evelyn B. H. Soame entitled "What is the period of gestation in cats?" Some results of matings are given which should be of interest to the veterinarian, since they are at variance with what has been not uncommonly accepted as the normal gestation period, viz., about 56 to 58 days.

The article includes the results of many years of practical experience by the author herself, and she quotes others. From these it appears that there is a consensus of opinion that the average duration of pregnancy for highly-bred cats which have restricted quarters is about 65 days, while for mongrels at liberty the period is shorter.

For example: "... the average of 21 matings in 1921 was 65 days; of 23 matings in 1922 was 65 days, and 22 matings in 1923, was 65 days again."

* "Diseases of the Cat." By Hamilton Kirk. Published by Baillière, Tindall & Cox, 1925.

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Again : " I have now examined the results of 20 matings this season, with the following results :—

" One queen went 63 days ; 4 queens, 64 days ; 8 queens, 65 days ; 4 queens, 66 days ; 2 queens, 67 days ; 1 queen, 68 days."

This gives a final average of 65·25 days. The author states that she possesses several females which carry their young for 68 to 70 days without ill effects, and quotes Kirk for the statement that kittens born as early as the 58th day may live.

A plea is put forward for help in determining " some safe and correct medical treatment by which we may confidently expect litters at the time expected."

It would seem that, quite apart from the immediate practical interest to breeders themselves, this article contributes further evidence upon a biological question of far wider scope and of very considerable scientific importance.

We may assume, and it is a perfectly legitimate assumption, that the original authors who stated that the gestation period of the cat was some 56 to 58 days were correct in their statements for that particular time. There is little likelihood that the figures were given at random without a definite observational basis, for otherwise a figure of 60 or 65 days, or any other number, might readily have been used, and we must still regard with due respect observations of past generations carried out at a time when true experimental approaches to a problem were far more limited than at the present day. We must equally accept the observations of the modern breeders as being accurate. It would appear then that the observed duration of pregnancy in the domesticated cat, and especially of the highly-bred show animal kept under artificial conditions, is increasing. It would be easy to dismiss the problem merely by having recourse to such time-honoured phrases as : " the result of over-breeding " ; " the modifying impact of super-domestication upon fundamental reproductive physiology " ; " the penalty paid by the animal to the whim of man " ; and so on. But such trite statements, though possibly satisfying to the superficial mind, are almost meaningless when examined in the clear light of hard scientific reason. What, then, can be offered as a more helpful explanation ?

There has been a complaint in a certain number of foxhound kennels during the past few seasons that bitches are becoming more and more irregular in their gestation periods. Some carry their puppies two, three, or four days longer than the accepted 63 days, and the pups born are not any bigger or better than those born at term, others whelp sooner than the expected date. In pig-breeding establishments, and perhaps most especially among horses, so-called " record lengths of pregnancy " are being constantly reported. It is interesting to note that evidence both on the Continent of Europe and in America is being slowly but surely accumulated to show that undue prolongation of pregnancy probably in all species can be correlated with a lowered plane of uterine metabolic activity. In other words, any reduction of the rate or level of fœtal nutrition occasioned

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by disease, anatomical or physiological abnormality, leads directly to a prolongation of pregnancy.

In so far as the highly domesticated show cat is concerned, a survey of the methods of management reveals at least two marked differences when compared with the cat at liberty: the restriction of exercise, hunting, etc., and consequent muscular unfitness, and the comparative absence of "living" and (freshly-killed) raw food from the diet. It is a matter of common knowledge in country districts that the best "mousers" or "ratters" are pregnant and lactating females. The extra demands imposed upon the body by the offspring have to be met by more active foraging and hunting, and a consequently richer and more vital type of food is taken.

It appears reasonable to assume that it may repay the effort to investigate the influence on pregnancy of an increase in the amount of exercise in conjunction with extra raw meat, liver, brains or other fresh animal products.

Amyloidosis of the Kidneys in Cattle.—By A. ANDERSSON, Stockholm. *Skd. Vtrtdschrft.*, April, 1936.

THE so-called large white kidneys in cattle are amyloid kidneys. The idea of these renal alterations having the character of glomerulonephritis is confuted. In the casuistics there are found, it may be said, all transitional forms, from the earliest stage of the alterations to the fully developed "large white kidneys." In their earliest stage, the kidneys appear as uncomplicated amyloid kidneys, with amyloid deposits above all in the medullary substance. Not until a later stage are the glomeruli affected, and in these too the earliest alterations consist of amyloid deposits, which usually have a focal extension within the vessels. Other alterations in the fully developed "large white kidneys"—the often enormous tubulous-dilation, the degenerative processes in the renal epithelium, and the focal or diffuse connective-tissue proliferation—ought probably to be understood mainly as secondary alterations caused of the amyloid deposits in the medullary substance and the glomeruli.

Amyloidosis of the kidney in cattle has been produced experimentally, too, by repeated injections of albumen from fowls.

A more detailed investigation of the other organs in amyloidosis of the kidneys shows that these renal alterations are symptoms of a typical general amyloidosis with amyloid deposits in the most various organs and tissue. Next to the kidneys, the adrenal bodies are the organs which display the greatest deposits. Alterations in the adrenal bodies can often be demonstrated even macroscopically. Besides, in the adrenal bodies more or less marked amyloid deposits have been demonstrated in the liver, pancreas, spleen, lymphatic glands, the mucous membrane of the mouth and of the pharynx, in all the proventriculi, abomasum, the small and the large intestine, the salivary glands, the udder, the urinary bladder, the heart and the lungs.

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Reviews

Report of the Medical Research Council for the Year 1934-35.
London: H.M. Stationery Office. 1936. Price 3*s*. net.

THERE must be few who fail to be impressed by the ever-increasing activities of the "M.R.C." and its various Committees. The present Report contains a very impressive record of the exceedingly divergent and extensive ramifications of the research work which is supported, and in many cases made possible, by the Council. A sum of £165,000 has been administered during the year, of which £97,000 has been expended in research grants and expenses of research carried out at the Universities and other centres in the United Kingdom, the remainder being absorbed by the work at the National Institute at Hampstead, administration, etc. The research carried out covers a very wide field, and comprises a big variety of subjects; certain of these are singled out for special notice, and it may be interesting and instructive to consider here some which are common to man and animals.

(1) *Nutritition: the Application of Modern Knowledge.*—The Report stresses once again a fundamental truth which cannot be stressed too often: "It is necessary to apply the new teachings of nutrition to the pregnant and lactating mother, so that the sustenance she supplies to the developing offspring shall be the best possible. . . . . Breast feeding is of even higher value than has been previously believed, and ought to be more extensively adopted and continued for longer periods." The truths of this section can be applied as principles of prime importance to man's domesticated animals no less than to man himself. Under this section mention is also made of the standardisation of vitamins A, B_1, C and D, which can now be expressed in international standard units, intelligible throughout the world. For details, the Report and various published papers should be consulted.

(2) *Ergot in Parturition: Ergometrine, the active principle.*—Ergot has been a subject of active study for more than sixty years, and yet it was only in 1935 that the discovery of ergometrine was announced. This is looked upon as the chief oxytocic principle, and it has now been isolated and purified. This is a remarkable achievement when one remembers the complexity of ergot and that such alkaloids as ergotinine, ergotoxine, ergotamine, ergotaminine, sensibamine, ergoclavine and acetylcholine have been isolated in the search for that particular principle which is so active on the uterus. Some of these substances (*e.g.* acetylcholine) have proved to be of immense importance in other fields of physiological and pharmaceutical activity. The identification of ergometrine was only reached through the collaboration of the clinical worker and the co-operation of human subjects under clinical conditions. A quotation here is relevant and worthy of repetition: "These researches, while illustrating how results of equal or even greater importance may be attained by the laboratory as by-products of the chase, also illustrate in no uncertain way how vital to the solution of a problem originating in and concerning clinical practice may be the guidance provided by continued investigation upon the clinical material itself." One cannot but wonder sometimes how much a lack of similar clinical co-operation restricts work in the fields of veterinary research.

(3) *Pernicious Anæmia.*—Though a pernicious anæmia such as affects man is not recognised in animals, the discovery of a method for preparing the active hæmopoietic agent from liver is of interest and may be of practical importance. The agent is described as being not a comparatively simple chemical body, but probably a complex protein structure, comparable to insulin. Injections of 0.1 to 0.2 grammes once weekly restore grossly affected persons to health in a few weeks, whereas even

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as recently as ten years ago the diagnosis of pernicious anæmia was almost equivalent to a death sentence.

(4) *Puerperal Fever and Hæmolytic Streptococci.*—If further evidence was required of the importance of the modern concept of the grouping of streptococci in disease, the work done on human puerperal fever would supply it. The research in progress on human puerperal fever, together with that on other diseases, including scarlet fever, tonsillitis, "hospital sepsis," bovine mastitis and equine strangles, in all of which hæmolytic streptococci are incriminated, serves to show the very real epidemiological significance of what have hitherto been largely regarded as minor laboratory differences of only academic interest.

(5) *Standards for Sex Hormones.*—Probably no separate section of modern research can show more amazingly rapid progress than that concerned with the sex hormones. The average individual is quite unfamiliar with the complexity of the subject and with the progress made. It is very gratifying to note that, as with vitamins, standards for several of the sex hormones have now been agreed upon by the Permanent Standards Committee of the Health Section of the League of Nations. This will prevent further flooding of the market with preparations of unknown strength and potency and those of a semi-bogus nature.

The standard preparations of the œstrogenic hormone are to be called *œstrone*, *œstriol* and *œstradiol*; the hormone from the corpus luteum responsible for changes in the uterus, etc., associated with pregnancy and pseudo-pregnancy, will be known as *progesterone*, while the hormone responsible for the secondary sexual characters of the male will be known as *androsterone*. Accurate standards of these are to replace the older chaotic conditions, and it is to be hoped that practitioners employing trade preparations containing these substances will insist upon a declaration of their strength. In this way their clinical action can be estimated with a degree of scientific accuracy otherwise impossible.

(6) *Other Activities.*—It is impossible to enumerate each of the many other activities of the Council, but from amongst them the following, which have a more particular application to animals, may be noted. It has been shown that mice can be immunized against psittacosis by injections of virus which has been inactivated by formalin or exposure to light in the presence of methylene blue. Further work has been done on the differentiation of vesicular stomatitis, due to a virus, from foot-and-mouth disease. The infective units of the former have a size about eight times larger than those of the latter. Further study has been made of louping-ill, using monkeys as experimental material.

The methods of measurement of the size of the units of viruses, which have been in progress for some years, have been continued and extended. Much information is now accumulating relating to virus diseases and to the various viruses themselves. It is not impossible that artificial cultivation of viruses will before long assume a position not unlike the cultivation of micro-organisms. More than a beginning has already been made, using chopped chick-embryo medium.

In bacteriological fields much interesting progress has been made. Most of this relates to human diseases, but the further investigation of the specific accessory factor for certain types of bacterial growths reported earlier has been continued, and is likely to prove of fundamental importance to bacteriologists generally. Further progress has been made with the preparation of "johnin" for diagnostic purposes, and methods for cultivating the organism of a disease of sheep simulating Johne's disease in cattle have been successful. The name suggested for this sheep disease is "paratuberculosis."

There is much more in the Report of intense interest to veterinarians which does not lend itself readily to a review. It can be heartily recommended to everyone who wishes to keep himself abreast of modern medical discovery. WM. C. M.

XUM

First Annual Report of the Chief Veterinary Officer for West Sussex, 1935-36. West Sussex County Council Veterinary Department.

THIS Report is the first one compiled by the Chief Veterinary Officer, L. Jordan, Ph.D., M.R.C.V.S., appointed recently by the Sussex County Council, and deals with the work of the Chief and four assistant veterinary officers, from January, 1935, to March, 1936. Five part-time veterinary officers still inspect the five cattle markets held within the county. The Report, as perhaps befits the occasion, and from the pen of one of the pioneers in veterinary supervision of dairy cattle, is lengthy and comprehensive. Careful records are kept of all visits paid by the veterinary staff, and apply to the Milk and Dairies Order, 1926, Milk (Special Designations) Order, 1923, Tuberculosis Order, 1925, and Anthrax Order, 1928. A few cases have been dealt with under the Diseases of Animals Acts and Orders, and the Chief remarks that several of the diseases scheduled by the Ministry of Agriculture and Fisheries are believed to be eradicated from this county. As regards tuberculosis, statistics show an increase in the number of cases dealt with this year, but this is attributed to the introduction of routine veterinary inspection and to the thorough search made for offending animals. The early diagnosis of cases of tuberculosis has lessened the financial loss to the farmers from this disease. The average number of cases of tuberculosis of the udder dealt with from 1932 to 1935 was twenty per year, whilst during 1935–36 77 cases were diagnosed out of 24,770 cattle examined. The highest number of animals taken under the Tuberculosis Order was between three and six years of age. During the year 77 cases were reported under the Tuberculosis Order which proved to be negative. The number of cases diagnosed out of these 77 was 38, whilst 39 *were not diagnosed:* we wonder why ?

Mastitis is prevalent in the West Sussex cows, and in many cases had not previously been recognised. This state of affairs, we venture to write, is prevalent in every district of the country. The difficulty is to know how it can be countered under present farming conditions. If Mr. Jordan had indicated how he deals with these cases, and if he can isolate such cows, and had stated the average length of time that elapses before such cows are put back in the herd and the measures he takes to overcome the abnormality, the information would have been instructive and educational to the veterinary profession.

Since the introduction of the Accredited Roll of Milk Producers the number of Grade A licences has increased from six to 305. It is significant that, as elsewhere, some 40 applications for licences are in abeyance, awaiting structural alterations to the premises. The amount of tact and persistence necessary to get alterations done is more " a work of art " than " a labour of love," but he who succeeds deserves all praise. The difficulty, sometimes, of finding the source of infection in the bulk sampling of milk is indicated in that in several of the cases of notification by M.O.H.'s of milk infection, no source could be discovered. It is reported that during the year no less than 1,465 cows with abnormal udder conditions were found out of 24,770 head of milking stock in the county, and yet only 77 of them were tuberculous. [The word " tubercular " slips in in the Report ; we think it ought to be " tuberculous."] To those who know how often hind quarters of the udder differ in size and yet may be unaffected with disease it is a matter of wonder how the act of milking is carried out. The farmer generally says it is due to faulty milking by young men or boys. There are some interesting lines at the end of the Report upon a " Tuberculin Testing Experiment," and attention is called to the infection of cattle with avian tubercle bacilli. We have always believed that the rigid exclusion of fowls from shippons is a matter of paramount importance judging from the prevalence of tuberculosis in fowls post-mortemed. The Report shows evident trace of careful compilation and is well worth perusal by all who deal with the examination of dairy herds.

XUM

Animal Painting and Anatomy. By W. Frank Calderon. London: Seeley Service & Co., Ltd. 21s. net.

On the title page of this book Mr. Calderon is mentioned as "Sometime Lecturer on Animal Painting at the Royal Academy." This explains Mr. Calderon's remarkable knowledge of anatomy. His work is well in keeping with the traditions of the Royal Academy Schools, where students go through a thorough course on anatomy before venturing any further. The author was also the teacher of such well-known animal painters as A. J. Munnings, R.A., Lionel Edwards and Cecil Aldin. Although Part I of this book, which deals with drawing, perspective, composition, etc., might be of interest to only a small section of the veterinary world, yet the second part on anatomy will be of great interest, even if veterinarians wish only to test their knowledge against that of the artist. The whole book should, however, delight dog and horse lovers, being profusely illustrated with some very fine drawings. Mr. Calderon goes into the parts of the animal body in detail, and although he is concerned mostly with helping the animal artist, the very complete illustrations and explanations should help others besides artists. The publishers are to be congratulated on producing a very fine book, worthy of the subject matter.

Wünschelruten Versuche an der Tierärztlichen Hochschule Hannover: Divining-rod Tests at the Veterinary School, Hannover (Regional Disease Diagnosis; Earth Rays and Water Veins in Animal Stables—Influence on Growth and Virulence of Disease Organisms). By R. Götze and H. Mieszner, with collaboration of Joh. Muller, Joh. Liesz and K. Hansen. With 54 illustrations and 12 tables. Hannover: M. & H. Schaper. 1936. R.M.1.50.

This book has three main and subdivided chapters on: (1) Divining-rod tests on the animal, and regional disease diagnosis; (2) Divining-rod tests in animal stables—water veins, earth rays and state of health of stable occupants; (3) Divining-rod tests with disease organisms: influence on growth and virulence. In the carrying out of these tests two practical rod diviners placed themselves at the disposal of the authorities. The tests show that the authors have missed nothing in the investigation of this matter and have dived into important problems. The results of the tests do not seem to have made the science of rod divination of much value in animals, but a closer study of the matter may be worth while.

News

ANNUAL REPORT (1935) OF THE CHIEF VETERINARY OFFICER, BIRMINGHAM.

Staff.—This consists of 1 chief veterinary officer; 6 assistant veterinary officers; 8 certified meat inspectors.

Meat and Food Inspection.—There is at present one public abattoir and 90 private slaughterhouses, of which 49 are registered and 41 annually licensed. In order to efficiently examine all carcases, it has been decided to augment the staff by one extra veterinary officer and five certified meat inspectors.

Numbers of Animals Slaughtered:

	Public Abattoirs	Private Slaughter-houses.
Beasts	47,322	7,714
Calves	96,380	3,796
Sheep and Lambs	258,514	58,036
Pigs	103,089	278,536
Total	505,305	348,082
Grand Total		853,387

Percentage of Imported Meat to Home-killed:

	Home-killed.	Imported.
Beef and Veal	59.0	41.0
Mutton	33.0	67.0

Methods of Stunning.—Cattle are stunned by a captive bolt instrument; pigs by electric instruments; sheep not yet included under the Act. Jewish slaughtering is done per a special pen. Preserved food factories (registered), 196.

Unsound Food Destroyed.—Over 1,008 tons of unsound food were destroyed, and compensation at the rate of 3*s.* per cwt. paid to the owners of carcases, etc. surrendered, the total amount being £1,199 17*s.* 0*d.*

Diseases of Animals Acts.—Anthrax: seven suspected cases, one case confirmed. Foot-and-mouth disease: no outbreak in the City. Swine fever: 103 suspected cases, 15 confirmed.

Transit of Animals.—Found dead at stations: pigs, 141; sheep, 28; calves, 5; beasts, 3. Two prosecutions, two convictions.

Exportation of Animals.—341 animals examined; 19 certified unfit to travel.

Importation of Animals.—From Ireland, Channel Islands and Isle of Man.

Cattle	1,123
Sheep	6,381
Pigs	39,791
	47,295

Tuberculosis Order; Milk and Dairies Order; Milk (Special Designations) Order; Milk and Dairies (Consolidation) Act:

SUMMARY

Dairy farms in the City	103
Milking cows	1,484
Visits to sheds	2,719
Mastitis in City cows	53
Tuberculosis in City cows	19
Samples of milk taken	1,872
Samples of milk infected	146
Visits to outside farms	181
Herds tested	18
Cows tested	1,774
Cows passed test	1,737
Cows failed test	37

Of the samples of milk from outside sources, 8.0 per cent. were found infected. In 1926 the percentage was 8.7

From the following table it appears there are only two types of milk safe to consume.

Samples tested :

	Taken.	Infected.
From Outside Dairies.		
Pasteurised	6	—
Grade A	38	3
Grade A (T.T.)	6	—
Non-designated	1,618	131
City Dairies.		
Grade A	60	4
Non-designated	144	8

Horse Stud.—Number of horses, 389. Net cost per week per head, 27*s.* 6.2*d.* Average percentage of horses off work, 2.1 per cent. Average length of service, six and a half years. Average price per horse purchased, £57.

The Veterinary Department now purchases the whole of the forage and grain supplies required by the various Institutions of the Corporation.

The Report is a record of important public health well done.

POULTRY INSPECTION.

A city ordinance recently enacted in Chicago prohibits the sale of canned poultry or canned poultry products within the city unless it shall have been inspected and passed as fit for consumption as human food by the U.S. Department of Agriculture. Inspection of dressed poultry is performed by the Bureau of Agricultural Economics, and the service is utilised by most of the larger canners of poultry and poultry products. The inspection consists in examination by a qualified veterinarian of each poultry carcase at the time it is eviscerated to determine that it is healthy and otherwise fit for human food. All diseased or unfit poultry is denatured. This poultry inspection service meets the requirements of the Chicago ordinance. It is available to all poultry canners who are willing to pay the costs of the service and to make suitable arrangements for examinations.

TRICHINOSIS IN DOGS AND CATS.

Dogs and cats, especially young ones, are easily infected by eating small numbers of *Trichinella*. Mature dogs of the smaller breeds are likewise easily infected by feeding small numbers of *trichinæ*. All the juvenile and the mature dogs and cats which were fed 100 non-capsulated muscle *trichinæ* each, succumbed to trichinosis. Evidently the gastric juice of these carnivores does not exert an injurious effect upon the non-encapsulated *trichinæ*. Nursing puppies and kittens are more susceptible to *trichina* infection than mature ones.

AN INTERESTING NOTE ON A VETERINARY STUDENT AT THE ABYSSINIAN FRONT.

(From H. D. Harrison, Press Association Special Correspondent with the Abyssinian Forces.)

"The Italian bombers were over as usual. The Army, which has been streaming all night through the valley where we were, had disappeared into the bush. Not a tent, not a man, not a mule could be seen. Into the comfortable security of a great ditch, in which another journalist and I—the only two of the great army of Pressmen who had accompanied the Emperor on his Northern tour—were placed, stepped a young Abyssinian officer. ' Have you any old English papers ? ' he asked, in perfect English.

He was A. W. Bayana, now an officer in the Imperial Guard, very popular with his men, liked by the Emperor and very keen to get to blows with the Italians. He was, until September, at the Royal Veterinary College, London, N.W.1. He is anxious for the war to end as soon as possible, in order to get back to his work in London. Only a few days before his Christmas mail had arrived, bringing him many letters and cards from his fellow students."

[Mr. Bayana was a good worker and one who made many friends who echo his wish that he will one day come back and complete his course for M.R.C.V.S.—EDITOR, *V.J.*]

Obituary

DR. FRED L. KILBOURNE.

DR. FRED L. KILBOURNE, discoverer of the rôle of the fever tick, *Margaropus annulatus*, in the transmission of tick fever, died at his home in Maravia, New York, May 23rd, 1936, at the age of seventy-seven. Dr. Kilbourne was the last of the four graduates of Cornell University to receive a veterinary degree (B.V.M.). The others were Myron Kassan (71), D. E. Salmon (72), and A. M. Farrington (79). Dr. Kilbourne graduated in 1885 and entered the newly organised Bureau of Animal Industry on August 15th following. He was made Director of the B.A.I. Experiment Station, succeeding Dr. W. H. Rose. He held this position until July 1st, 1894, when he resigned from the Bureau, and was succeeded by Dr. E. C. Schroeder, the position being then designated " superintendent."

In 1889, in an experiment designed to determine whether or not the tick was responsible for the transmission of Texas fever in cattle, Dr. Kilbourne discovered its relationship to the disease, one of the most important fundamental discoveries in medicine and the first discovery of the transmission of a protozoan disease by an arthropod. A full account of the experiment was not published until 1893, and at that time the account contained also the discovery of the causative organism of tick fever, *Babesia bigemina*, by Dr. Theobald Smith. The paper was published jointly, and Theobald Smith, being senior to Kilbourne in the Bureau, his name was used first. Probably from this circumstance, and the further circumstance that Dr. Smith was an M.D., the medical profession at once gave Smith the principal credit for the major discovery.

Smith continued in scientific work and made many important contributions to medical knowledge. Kilbourne gave up research to enter veterinary practice for five years and then discontinued veterinary work entirely, with the result that his name came in time to be mentioned but rarely in connection with his epoch-making discovery. Even the Secretary of Agriculture, in mentioning, in a radio broadcast, this great contribution to scientific knowledge, referred to Dr. Kilbourne as " Mr. Kilgore." He came very near to being the " forgotten man."

Veterinary literature did little until recently to remedy the injustice done Kilbourne. However, the local committee in connection with the seventieth annual meeting of the American Veterinary Medical Association in Chicago in 1933, presented Dr. Kilbourne with a medal in commemoration of his discovery; the " Veterinary Military History of the United States," published in 1935, accords him the major credit for the discovery; and an article published by Dr. Maurice C. Hall (*The Journal of Parasitology*, 21, 4, August, 1935) accords him recognition in the matter. It is gratifying that these three separate recognitions of his work, which reflects great credit upon veterinary medicine, should have been published before his death.

XUM

New Preparations

We recently received literature and samples of "Red Heart" Dog Food. The makers claim that this food is a complete diet, having a meat basis and containing cereals, vegetables, cod-liver oil and vitamin G, in the proportions necessary to ensure sound digestion, and to keep the dog in perfect health and condition. The samples sent were readily accepted by the dog to whom they were given. The product is put up in three forms: Diet "A" contains beef, vegetables, barley, rice, cod-liver oil, bone meal, and vitamin G. Diet "B" contains the above with the addition of tasty boneless fish. Diet "C" is the same as Diet "A" with the addition of a delicious-tasting cheese. Each of these is marketed at 6*d*. per tin. Messrs. John Morrell & Co., Ltd., of 57, Victoria Street, Liverpool, 1, who have been established since 1827, will be pleased to supply particulars of their products to those of our readers who are interested.

HIS MAJESTY'S HOUSEHOLD.

Appointments by the King.

Amongst those who are honoured in the list of appointments to the Royal Household in the *London Gazette* we are pleased to note the following:—Honorary Veterinary Surgeons: Major Sir Frederick Hobday, C.M.G., F.R.S.E.; John Willett, Esq, M.R.C.V.S. The honour of this form of Appointment, being gazetted in the correct style of professional etiquette, will be much appreciated by the profession.

It will interest readers of The Veterinary Journal to know that the honour of D.V.M. (Docteur Médecine Vétérinaire) has been conferred by the Montreal University on Dr. Hilton, Veterinary Director General, Health of Animals Branch, Department of Agriculture, Ottawa, Canada.

Principal Sir Frederick Hobday has been elected Foreign Corresponding Member of the Academy of Medicine of Roumania.

The contributions to the undulant fever problem by the veterinary profession have been rich during recent years and are playing a predominant rôle in our (the medical) profession in the campaign against this redoubtable malady.—*Med. Times.*

The cattle fever tick area in the United States has been cut down in less than thirty year to under 9 per cent. of the area that was infested with the tick when the Department of Agriculture started to drive it out of the country. On July 1st, 1906, when eradication work began, nearly 730,000 square miles in fifteen States was under Federal quarantine because of the tick. Now only 62,000 square miles remains under quarantine in Florida, Louisiana and Texas.

Publishers' Notices

All communications should be addressed to 7 & 8, Henrietta Street, Covent Garden, London, W.C. 2. Telephone: Temple Bar 8568. Telegrams: "Baillière Phone, London."

Letters for the Journal, literary contributions, reports, notices, books for review, exchanges, new instruments or materials, and all matter for publication (except advertisements) should be addressed to the Editor.

Copy of advertisements should be in the hands of the publishers—Baillière, Tindall and Cox—not later than the 25th of the month, or if proof is required, not later than the 23rd.

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